

Appl. No. 10/596,340  
Amdt. dated September 8, 2008  
Reply to Office Action of March 6, 2008

### **Amendments to the Claims**

This listing of claims will replace all prior versions, and listings, of claims in the application:

### **Listing of Claims:**

Claims 1 through 26 (canceled)

Claim 27 (currently amended): Optical device including a cavity for which at least part is ellipsoidal with a first focus and a second focus, the device including means of presenting a medium containing components to be analysed in the cavity at the first focus, the device also including means of transporting an excitation light beam in the cavity along a path also passing through the first focus to illuminate said medium at the first focus, said ellipsoidal part of the cavity (2, 32) including a wall reflecting light emitted by said medium in response to the excitation light beam, the device including means of collecting said emitted light at the second focus,

wherein the means used to present said medium are capable of making the medium circulate along a path passing through the first focus,

wherein the angle between the path of the means used to circulate the medium and the path of the means used to transport an excitation beam is less than 90° at the first focus, and

wherein the means used to circulate the medium include a transparent tube, at least at the first focus.

Claim 28 (cancelled)

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Claim 29 (cancelled)

Claim 30 (cancelled)

Claim 31 (currently amended): Optical device set forth in claim ~~28~~ 27, wherein the path of the means used to circulate the medium and the path of the means used to transport an excitation beam are both perpendicular to ~~the~~ an axis of ~~the~~ an ellipsoid corresponding to the ellipsoidal shape of the cavity.

Claim 32 (cancelled)

Claim 33 (currently amended): Optical device set forth in claim ~~28~~ 27, wherein the means used to circulate the medium include an injector tube of the medium with one end located at the first focus and a collector tube of said medium with one end located at the other side of the first focus so that the medium is directly subjected to the excitation light beam.

Claim 34 (currently amended): Optical device set forth in claim ~~32~~ 27, wherein ~~it~~ the optical device is provided with orifices through which the tube or injector tube and the collector tube can pass.

Claim 35 (currently amended): Optical device set forth in claim 27, wherein ~~it~~ the optical device is provided with an inlet orifice of the excitation light beam and ~~possibly~~ an outlet orifice of the excitation light beam.

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Claim 36 (previously presented): Optical device set forth in claim 27, wherein the means of presenting said medium include a case matching the shape of said part and wherein said medium can be housed at the first focus.

Claim 37 (previously presented): Optical device set forth in claim 36, wherein the case being transparent, the reflecting wall is the wall of said part.

Claim 38 (previously presented): Optical device set forth in claim 37, wherein the case is made of a material forming said reflecting wall.

Claim 39 (previously presented): Optical device set forth in claim 27, wherein the means of presenting said medium include a support including said medium and that can be inserted in the optical device to present said medium at the first focus.

Claim 40 (previously presented): Optical device set forth in claim 39, wherein the support includes at least one housing to contain said medium.

Claim 41 (previously presented): Optical device set forth in claim 39, wherein the support includes at least one channel internal to the support to transport said medium to the first focus, in a transparent part of the support.

Claim 42 (previously presented): Optical device set forth in claim 39, wherein said support is a lab on a chip.

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Claim 43 (currently amended): Optical device set forth in claim 27, wherein the means of presenting said medium comprise a support provided in the cavity and supporting said medium so as to present ~~it~~ said medium to the first focus.

Claim 44 (currently amended): Optical device set forth in claim ~~28~~ 27, wherein the cavity is completely filled with a substance transparent to the excitation light beam and to said emitted light, the means for collecting emitted light comprising an opening provided with a concave lens concave towards the outside of the device, for which the focal point coincides with the second focus located outside the optical device, and the axis of which is the axis of the ellipsoid corresponding to the ellipsoidal shape, the emitted light thus not passing through any air layer before coming out of the concave lens.

Claim 45 (previously presented): Optical device set forth in claim 27, wherein the emitted light collection means include an opening to allow light collected at the second focus to pass through.

Claim 46 (previously presented): Optical device set forth in claim 27, wherein the emitted light collection means include an opening equipped with a lens or a group of lenses, the axis of which is the axis of the ellipsoid corresponding to the ellipsoidal shape and for which the focal point coincides with the second focus.

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Claim 47 (previously presented): Optical device set forth in claim 46, wherein the lens or group of lenses is placed in a reception housing of the device and is fixed to the device by a support element.

Claim 48 (currently amended): Optical device set forth in claims 27, wherein ~~it~~ the optical device consists of at least two assembled parts.

Claim 49 (cancelled)

Claim 50(currently amended): Optical device set forth in claim 27, wherein ~~it~~ the optical device is made of a metallic material.

Claim 51 (currently amended): Optical device set forth in claim 27, wherein ~~it~~ the optical device is made of a plastic material, the reflecting wall of the cavity being formed of a metallic material.

Claim 52 (previously presented): Optical device set forth in claim 50, wherein the metallic material absorbs light at the wavelength of the excitation light beam and reflects light at the wavelength of the emitted light.